



OFF THE BOOKS

Air Pollution Missing from Texas Annual Emission Inventory

December 8, 2005

The Clean Air Act requires large industrial plants to report their total annual emissions of pollutants like sulfur dioxide, carbon monoxide, and smog forming chemicals to state environmental agencies. But a review of Texas data suggests that some companies omit more than eighty percent of their actual emissions in these annual reports. For example, twenty facilities failed to report nearly 16,000 tons of regulated pollutants they released in 2003 in their annual submissions for that year.

According to nearly 800 notifications to the Texas Commission on Environmental Quality in 2003, the twenty plants released a combined total of 19,200 tons of pollutants in 2003 as a result of upsets, maintenance, and startup and shutdown activity, including 7,894 tons of sulfur dioxide, 6,311 tons of carbon monoxide, and 4,947 tons of volatile organic compounds. But when submitting their total annual inventory of emissions to the state for that same year, the facilities admitted releasing only 3,430 tons of pollution. TCEQ currently assesses a fee of \$30.90 per ton of emissions reported to the inventory, which means the facilities in question owe the state nearly \$500,000 in fees for the unreported pollution.

What the Law Requires

The apparent failure to report emissions is not only a violation of the Clean Air Act; it deprives Texas of the data it needs to protect the public from air pollution. Like other states, TCEQ uses the annual emission inventory to identify the largest sources of pollution and write air pollution rules, establish permit conditions and emission monitoring requirements, and determine where additional regulations may be needed to protect human health. The instruction form for reporting makes clear that *all* emissions must be included:

“Reported emission activities must include annual routine emissions; excess emissions occurring during maintenance activities, including startups and shutdowns; and emissions resulting from upset conditions.”

The twenty companies identified in attachment A appear to have disregarded these instructions by excluding most, if not all, emissions due to upsets, as well as startups, shutdowns, and maintenance (SSM) in 2003 when submitting their annual reports. These estimates of underreporting should be considered conservative. Online tracking of upsets and SSM events only began in February of 2003, so any air pollution from such events in January is not included

in the comparison. Furthermore, upset data from some regional offices (Laredo, Harlingen, and El Paso) is generally unavailable online, limiting the number of records that could be examined.

The gap between the amount of air pollution actually released and the amount reported to the state in these examples may be symptomatic of a larger problem. The Environmental Integrity Project limited its comparison to facilities that a) released at least one hundred tons of one or more pollutants due to upsets, startups, shutdowns, or maintenance activities during the eleven months of 2003 for which data is available, and b) where emissions from such events exceeded the total annual emissions reported during the same calendar year. Many other facilities notified TCEQ of significant releases of air pollution during 2003, and it is not clear that these emissions are being included in their annual reports as required by law.

Who Failed to Report

Attachment A lists the twenty facilities that failed to include upset and other SSM emissions in their annual emission inventory reports. The list includes fifteen gas processing plants, including five owned by Duke Energy Field Services and three owned by Occidental Permian, two refineries (Valero in Corpus Christi and Atofina Petrochemicals in Port Arthur), the BASF chemical plant in Port Arthur, and the Sid Richardson Carbon Black facility in Borger.

Five of the twenty facilities apparently did not submit annual emission inventory reports at all in 2003, despite releasing at least one hundred or more tons of sulfur dioxide, carbon monoxide, or volatile organic compounds. One of these – the Mallet CO₂ Recovery plant in Hockley County – had 47 different upset events releasing more than 450 tons of sulfur dioxide in 2003. At other facilities, total annual emissions reported to the state were dwarfed by the amounts of pollution released during upsets, maintenance, startups and shutdowns. For example:

- the Total Petrochemical refinery in Port Arthur released more than 3,000 tons of sulfur dioxide during upsets, startup, shutdown and maintenance events, but estimated only 735 tons in its annual inventory report;
- Duke Energy's Goldsmith Gas plant accounted for only 192 tons of smog-forming volatile organic compounds in its annual inventory, but released 1,559 tons during upsets and SSM events;
- the Sid Richardson Carbon Black plant emitted more than 6,000 tons of carbon dioxide during upsets and SSM events, but admitted to less than 900 tons in its annual emissions inventory; and,
- the accident-prone BASF Fina Petrochemicals plant released at least 700 tons of volatile organic compounds during upsets and SSM events in 2003, including nearly 70 tons of known carcinogens, but included only 72 tons of VOCs in its annual emissions report.

Recommendations

Reasonable people may disagree about the most effective way to achieve the goals of the Clean Air Act, but rational debate is impossible if we don't understand how much air pollution is released and where it comes from. TCEQ should take the following steps to ensure that the data upon which its decisions are based more accurately reflects reality:

- Facilities that fail to include all emissions in the annual reports submitted to the state should be penalized. TCEQ should start by investigating the facilities identified in this report, and should take enforcement action if it can verify that emissions were seriously underreported.
- TCEQ should compare pollution estimates in the annual reports with online notifications of emissions from upsets, startups, shutdowns, and maintenance. Where emissions from such events seem high, TCEQ should audit to make sure that they are included in the annual submissions. Natural gas plants should be singled out for special attention.
- Some facilities note significant upsets but either do not provide the required emissions data, or offer estimates that seem absurdly low. TCEQ should also periodically audit facilities to ensure that upset and SSM emissions are being properly reported.

Closing the Loophole

The data suggests that at least for some facilities, emissions from upsets and other SSM events can be much greater than the amounts allowed from routine operations. For too long, companies escaped enforcement penalties for these emissions by claiming they were “unpredictable” or beyond their control. But companies cannot shield themselves from enforcement when they spill oil or toxic chemicals into our rivers by claiming they were “accidental” or due to “maintenance”. Why should these excuses shield companies from liability for releasing dangerous air pollutants into neighboring communities?

TCEQ and EPA are taking useful steps to close this loophole, e.g., by setting emission limits for ordinary maintenance activities (which may require periodic shutdown and startup) in permits, and penalizing companies for any releases above those permitted amounts. In the meantime, both agencies should take enforcement action against poorly managed operations that repeatedly release large amounts of air pollution due to malfunctions and related repair work.

The data presented in this document was culled from two online sources available through the Texas Commission on Environmental Quality’s website: the [2003 Texas Point Source Emissions Inventory](#), and the [TCEQ Air Emission Event Report Database](#). As noted above, the Point Source Emissions Inventory is supposed to represent a facility’s total annual emissions, regardless of whether the pollution was released from normal operations or less predictable events like upsets. Among those facilities required to report are those that emit, or have the potential to emit, one hundred tons per year of certain pollutants, including sulfur dioxide, carbon monoxide and volatile organic compounds. The emissions inventory for 2003 was made public in August of 2005 only after it was reviewed by TCEQ for data accuracy.

Facilities are also required to report to an online database any emissions above certain minimum thresholds that are triggered by upsets, or by SSM activities. Notifications must be filed within twenty-four hours of each emission event, with any necessary corrections made within ten days of the initial report. The Environmental Integrity Project tallied up the total amount of air pollution released during these events by each facility, and compared them to the amounts reported in annual emission inventories.

ATTACHMENT A

Sulfur Dioxide Emissions, 2003

Facility	Owner	County	SO ₂ Upsets	2003 EI
Port Arthur Refinery	Total Petrochemicals USA Inc.	Jefferson	3,127.89	735.33
Goldsmith Gasoline Plant	Duke Energy Field Services	Ector	1,615.35	1,092.49
Fullerton Gas Plant	Duke Energy Field Services	Andrews	762.06	47.07
Adair San Andres Compressor	Amerada Hess Corp	Terry	635.03	4.68
Mallet CO ₂ Recovery Plant	Occidental Permian, Ltd.	Hockley	456.06	n/a
Valero Corpus Christi West Plant	Valero Refining - Texas LP	Nueces	306.62	201.28
Cedar Lake Booster Station	Amoco Production Company	Gaines	177.72	n/a
Block 31 Area	BP America Production Company	Crane	157.92	25.00
Wasson CO ₂ Removal Plant	Occidental Permian, Ltd.	Yoakum	156.73	9.00
Sand Hills Plant	Dynegy Midstream Services, LP	Crane	151.29	0.19
Cogdell Canyon Reef Temporary Flare	Occidental Permian, Ltd.	Scurry	128.79	n/a
N Cowden Unit Central Tank Battery	Amoco Production Company	Ector	117.48	n/a
Welch CO ₂ Plant	Oxy USA WTP LP	Dawson	100.80	92.71
TOTALS:			7,893.74	2,207.75

Carbon Monoxide Emissions, 2003

Facility	Owner	County	CO	
			Upsets	2003 EI
Borger Carbon Black Plant	Sid Richardson Carbon and Gasoline	Hutchinson	6,100.89	867.14
Mallet CO ₂ Recovery Plant	Occidental Permian, Ltd.	Hockley	109.33	n/a
Cogdell Canyon Reef Temporary Flare	Occidental Permian, Ltd.	Scurry	100.95	n/a
TOTALS:			6,311.17	867.14

Volatile Organic Compound Emissions, 2003

Facility	Owner	County	VOCs	
			Upsets	2003 EI
Goldsmith Gasoline Plant	Duke Energy Field Services	Ector	1,559.22	192.29
Boyd Compressor Station	Western Gas Resources, Inc.	Reagan	1,025.77	31.52
Nafta Region Olefins Complex	BASF Fina Petrochemicals LP	Jefferson	701.42	72.20
SACROC CO ₂ Treatment	Kinder Morgan CO ₂ Co. LP	Scurry	623.53	15.18
Blalock Booster	Duke Energy Field Services	Glasscock	502.45	17.22
Borger Carbon Black Plant	Sid Richardson Carbon and Gasoline	Hutchinson	286.65	2.85
Weir Booster	Duke Energy Field Services	Upton	136.21	24.28
Notrees Booster	Duke Energy Field Services	Ector	111.58	n/a
TOTALS:			4,946.83	355.54

Note: all figures expressed as tons per year (tpy).